

Lindblad, Bertil.

Radiative equilibrium and solar temperature. Uppsala. 1923. 24 p. 29 cm. (*Nova acta Regiae societatis scientiarum Upsaliensis*. Ser. 4, v. 6, no. 1.)

Minas Geraes. Serviço meteorológico.

Boletim de normas de temperatura, chuva e insolação correspondentes aos anos de 1914 a 1921. Minas Geraes. 1923. 208 p. maps. 36½ cm.

Molchenov, P. A.

Atmosfera. Stroenie i protsessi vozrashchennia stikhii po sovremenii vozzreniiam. Peterburg. 1923. 163 p. illus. 24 cm. [Title and text in Russian.]

Notes on climate, and other subjects in eastern Mediterranean and adjacent countries. London. [1916.] 300 p. plates (in pocket). 19 cm. (Prepared on behalf of the Admiralty and the War office. I. D. 1117.)**Quayle, E. T.**

Increasing run-off from the Avoca river basin (due apparently to deforestation.) p. 143-152. 25 cm. (Proc. Roy. soc. Victoria. v. 35 (new series.) pt. 2. 1923.)

Quervain, A. de.

Explosion von Oppau am 21. September 1921. p. 10-15. illus. 31 cm. (Schweizer. met. Zentral-Anstalt. Annalen. 1920.)

Réthly, Antal.

Magyarország csapadékterképe. (In Gróf, T. P., & others. Zsebatlasz naptárral és statisztikai adatokkal az 1923. évre Kiadja. 1923. p. 157-166.) [With rainfall map of Hungary.]

Rigg, George B., & others.

Influence of plants on the air in houses. p. 383-386. 25½ cm. (Amer. journ. botany. v. 10. July, 1923.)

Sayers, R. R. & Harrington, D.

Physiological effects of high temperatures and humidities with and without air movement. Effects on body temperature and pulse rate of subjects at rest. [Washington. 1923.] p. 1616-1637. fig. 23½ cm. (U. S. Public health service. Pub. health reports. v. 38. no. 29. July 20, 1923.)

Shaw, H. Knox.

Observations of solar radiation, 1915-1921. p. 237-256. 27 cm. (Min. of pub. works. Egypt. Phys. dept. Helwan observ. Bulletin no. 23.)

Shaw, Napier.

The air & its ways. The Rede lecture (1921) in the University of Cambridge, with other contributions to meteorology for schools and colleges. Cambridge. 1923. xx, 237 p. illus. plates. 27 cm.

Sifontes, Ernesto.

Paginas sobre meteorologia tropical (región de Ciudad-Bolívar.—Guayana.—Venezuela.—S.A. Zona al Sur del río Orinoco)—año 1920. Ciudad Bolívar. 1923. 212 p. 25 cm.

South Kensington museum, London.

Catalogue of sky sketches from . . . 1883 to . . . 1886, by William Ascroft. Illustrating optical phenomena attributed to the eruption at Krakatoa, in the Java straits, August 27th, 1883. . . . London. 1888. 18 p. 21½ cm.

Suhara, Toyotaro.

New air velocity calculator. Tōkyō. 1922. p. 25-30. illus. plates. 26 cm. (Report Aeron. res. inst., Tōkyō imp. univ. v. 1, no. 2. June, 1922.)

Sutton, J. R.

Control of evaporation by the temperature of the air. p. 5-13. 25 cm. (Repr.: Trans. Roy. soc. South Africa. v. 11, pt. 1.)

Some notes on rainfall and run-off in South Africa. p. 41-44. 24½ cm. (South African geogr. journ. v. 5, Dec., 1922.)

Tamaru, Takurō.

Hikōki ni taisuru Kaze no Hōkō to Hayasa wo kirokusuru Kikai. [Tōkyō. 1921.] 23 p. illus. 26 cm. (Report Aeron. res. inst. Tōkyō imp. univ. no. 1. Feb., 1921.) [With English abstract.]

Terada, Torahiko, & Kobayashi, Tatuo.

On the diurnal variation of winds in different coastal stations of Japan. p. 33-85. figs. 26½ cm. (Report Aeron. res. inst. Tōkyō imp. univ. v. 1, no. 3, July, 1922.)

Vercelli, Francesco.

Le scienze fisiche e matematiche nelle opere di Dante. Roma. 1923. 43 p. 23 cm. [Meteorology. p. 23 ffg.] (Rivista marittima. Feb., 1923.)

RECENT PAPERS BEARING ON METEOROLOGY AND SEISMOLOGY.

C. FITZHUGH TALMAN, Meteorologist in Charge of Library.

The following titles have been selected from the contents of the periodicals and serials recently received in the library of the Weather Bureau. The titles selected are of papers and other communications bearing on meteorology and cognate branches of science. This is not a complete index of all the journals from which it has been compiled. It shows only the articles that appear to the compiler likely to be of particular interest in connection with the work of the Weather Bureau.

American meteorological society. Bulletin. Worcester, Mass. v. 4. 1923.

Clough, Homer W. An improved method of computing meteorological normals. p. 72-73. (May.) [Abstract.]

Haas, Nelson W. A method for representing wind directions at different levels on the same chart. p. 71-72. (May.) [Abstract.]

Henry, A. J. Terrestrial temperatures in the United States and the sunspot cycle. p. 680. (May.) [Abstract.]

Humphreys, W. J. Oblique arcs through the sun. p. 70-71. (May.) [Abstract.]

Marvin, C. F. Periodicities in weather and climate. p. 66-67. (May.) [Abstract.]

Marvin, Charles F. The status, scope, and problems of meteorology. p. 73-76. (May.) [Abstract.]

Tingley, F. G. A proposed system of graphical extrapolation of weather data, with possible application to long-range forecasting. p. 69-70. (May.) [Abstract.]

Brooks, Charles F. Local climates of Worcester, Mass., as a factor in city zoning. p. 83-86. (June-July.)

Brooks, Charles F. Unsatisfactory rain insurance policies. p. 82-83. (June-July.)

Gregg, W. R. Meteorology and the record non-stop distance flight of Lieuts. Kelly and Macready. p. 99-100. (June-July.)

Gregg, W. R., & Van Zandt, J. P. The wind factor in flight: an analysis of one year's record of the air mail. p. 89-90. (June-July.) [Abstract.]

Hand, I. F. An examination of the dust content of the atmosphere. p. 92-93. (June-July.) [Abstract.]

Horton, Robert E. Do saturated soils increase rates of flood discharge? p. 95-96. (June-July.)

Horton, Robert E. Keep a ground-water level record. p. 96-97. (June-July.)

Humphreys, W. J. Dusting the clouds for rain. p. 87-88. (June-July.) [Abstract.]

Kimball, Herbert H., & Hobbs, Herman E. A new form of thermoelectric recording pyrheliometer. p. 91-92. (June-July.) [Abstract.]

Meisinger, C. LeRoy. The accuracy of free-air pressure maps. p. 90-91. (June-July.) [Abstract.]

Mitchell, Charles L. Revised tracks of West Indian hurricanes. p. 93-95. (June-July.) [Abstract.]

Sherry, B. J. The meteorological service on the model airway. p. 89. (June-July.) [Abstract.]

Weeks, John R. Basis of rain insurance rates. p. 81-82. (June-July.)

American philosophical society. Proceedings. Philadelphia. v. 62. no. 2.

Ward, Robert DeC. The "Indian summer" as a characteristic weather type of the eastern United States. p. 48-56.

Annalen der Hydrographie und maritimen Meteorologie. Hamburg. 51. Jahrg. 1923.

Ahlgrimm, Fr. Zur Aufhängung des Meteorographen unter dem Fesselballon. p. 96-97. (April.)

Geiger, Rudolf. Ueber quantitative Messungen an Inversionsflächen. p. 81-90. (April.)

Köppen, W. Die Bora im nördlichen Skandinavien. p. 97-99. (April.)

Schmidt, Adolf. Wie ist das Jahr für meteorologische Zwecke am besten einzuteilen? p. 93-96. (April.)

Schumacher, A. Neuere Versuche zur Messung der Verdunstung von Seenflächen. p. 99-100. (April.)

Bartels, J. Zur Berechnung der täglichen Luftdruckschwankung. p. 153-160. (Juli.)

Perleitz, P. Ueber Wettervorhersage. p. 166-170. (Juli.).

- Annales de géographie. Paris. 32 année. 15 juillet 1923.*
- Angot, Alfred. F. de Montessus de Ballore (1851-1922). p. 369-371.
- Pardé, M. Les grandes averses aux Etats-Unis, d'après les travaux du Miami conservancy district. p. 367-368.
- Rouch, J. L'objet et les méthodes de la météorologie. p. 289-297.
- Annales de physique. Paris. t. 19. Janvier-février, 1923.*
- Labrouste, H. Exposé sommaire de l'état de la sismologie. p. 5-62.
- Archives des sciences physiques et naturelles. Genève. v. 5. Mai-juin, 1923.*
- Billwiller, R. La tempête de foehn des 4/5 janvier 1919. p. 219-220. Abstract.
- Maurer, J. L'anomalie des plus récents phénomènes d'aurore polaire. p. 220-221. [Abstract.]
- Morikofer, W. La température de l'air dans la couche d'un mètre d'épaisseur au-dessus du sol. p. 211-214.
- British astronomical association. Journal. London. v. 33. June, 1923.*
- Meteors and the physical conditions of the upper atmosphere. p. 346-349. [Abstr. of paper by Lindemann & Dobson.]
- Ciel et terre. Bruxelles. 39 année. Juin 1923.*
- Agamennone, G. Sur quelques types d'accéléromètres sismiques. p. 137-143.
- Engineering news-record. New York. v. 91. 1923.*
- Ewing, Paul A. Predicting next year's rainfall for southern California. p. 17. (July 5.)
- Shannon, William D. A new transmission line tested by frozen fog. p. 19. (July 5.)
- A 12.76-in. rainfall in 4½ hours at Beaumont, Texas. p. 63. (July 12.)
- Snow removal and road damages. p. 250-251. (Aug. 16.)
- France. Académie des sciences. Comptes rendus. Paris. t. 176. 1923.*
- Montessus de Ballore, R. de. Sur la prévision méthodique du temps. p. 1640-1643. (4 juin.)
- Rivière, J. Sur la variation de température nocturne par ciel serein. p. 1643-1646. (4 juin.)
- Montessus de Ballore. Sur la prévision locale du temps. p. 1913-1915. (25 juin.)
- Maurain, Ch., Toussaint, A., & Pris, R. Mesure de la résistance de l'air sur le matériel des chemins de fer. p. 308-310. (30 juil.)
- Geographical journal. London. v. 53. August 1923.*
- Clement Lindley Wragge. p. 157-158. [Obituary.]
- Montessus de Ballore, Count F. p. 156-157. [Obituary.]
- Geographical review. New York. v. 13. July, 1923.*
- Brooks, Charles F. Ice sheet of central Greenland. A review of the work of the Swiss Greenland expedition. p. 445-453.
- Great Britain. Meteorological office. Monthly meteorological charts, East Indian seas. London. August, 1923.*
- Hennessy, J. Tropical storms in eastern waters reported by ships during the latter half of 1922.
- Harvard College. Astronomical observatory. Annals. Cambridge, Mass. v. 86. pt. 2. 1923.*
- McAdie, Alexander. Units and constants in aerography. p. 95-106.
- McAdie, Alexander. Velocity of sound in free air. p. 107-117.
- India. Meteorological department. Memoirs. Calcutta. v. 23, pt. 6. 1923.*
- Mossman, R. C. On Indian monsoon rainfall in relation to South American weather, 1875-1914.
- Japan. Central meteorological observatory. Bulletin. Tokyo. v. 3, no. 5, 1923.*
- Fujiwhara, S. On the growth and decay of vortical systems and the mechanism of extratropical cyclones.
- Meteorological magazine. London. v. 58. June, 1923.*
- Brooks, C. E. P. Sea temperature, pressure distribution, and weather of May, 1923. p. 100-102.
- International symbols ← and → p. 110-111.
- Salter, Mortyn de Carle Sowerby, 1880-1923. p. 97-99. [Obituary.]
- Shaw, Napier. Captain Carl Hartwig Ryder. p. 114. [Obituary.]
- Meteorologische Zeitschrift. Braunschweig. Bd. 40. 1923.*
- Eckhardt, W. R. Luftdruckverteilung, Zyklonenzug und Regenfall in Nordamerika. p. 149-150. (Mai.)
- Eckhardt, W. R. Wind und Regenfall zu Konstantinopel. p. 147-148. (Mai.)
- Errlat, F. Eine Trombe im nördlichen Ostpreussen am 8. August, 1922. p. 154-156. (Mai.)
- Meteorologische Zeitschrift—Continued.*
- Georgii, Walter. Zur Theorie und Praxis der Wettervorsage. p. 138-143. (Mai.)
- Gockel, A. Über die Durchlässigkeit der Atmosphäre für Licht- und Polarisationsmessungen in Freiburg i. d. Schweiz. p. 129-138. (Mai.)
- Hellmann, G. Regenfall auf den Marquesas-Inseln. p. 145-146. (Mai.)
- Maurer, H. Das Wandern des Wasserdampfes quer über die Breitenkreise. p. 147. (Mai.)
- Peppler, W. Die Wolkenhöhen über Friedrichshafen und die Neigung der Schichten über Mitteleuropa. p. 150-153. (Mai.)
- Rouch, J. Der Höhenwind auf der Luftverkehrslinie Paris-London. p. 143-144. (Mai.)
- Georgii, W. W. J. Humphreys: Das Rauschen des Waldes und das Brausen der Berge. p. 218-219. (Juli.)
- Hirschfeld, Alexander von. Beobachtungen über Harmattantrübe in Mittel-Angola. p. 220-221. (Juli.)
- Kähler, L. Über die Schwankung der elektrischen Raumladung in der Atmosphäre. p. 204-211. (Juli.)
- Keränen, J. Eine bemerkenswerte Gefriererscheinung im Boden nach einer langen Kälte. p. 221. (Juli.)
- Moltschanoff, P. Turbulenz der unteren Luftsichten und Entwicklung der Haufenwolken. p. 213-216. (Juli.)
- Roschkott, A. Robitzsch, Beiträge zur Struktur des Bodenwindes. p. 216-218. (Juli.)
- Väistö, Vilho. Ein Auswertungsinstrument für Pilotballonbeobachtungen. p. 220. (Juli.)
- Wenger, R. Zur Theorie der Berg- und Talwinde. p. 193-204. (Juli.)
- Nature. London. v. 111. 1923.*
- Owens, J. S. Haze on Derby Day—June 6. p. 848. (June 23.)
- Bonacina, L. C. W. Barometric pressure in high latitudes. p. 100. (July 21.)
- Giblett, M. A. The thunderstorm of July 9-10 over southern England. p. 113-144. (July 21.)
- Stefansson, Vilhjalmur. Polar temperatures and coal measures. p. 162-163. (August 4.)
- Bauer, Louis A. Solar activity and atmospheric electricity. p. 203-205. (August 11.)
- Nature. Paris. 51. année. 1923.*
- Félix, J. La girouette Constantin. Ses applications à la navigation aérienne. p. 379-384. (16 juin.)
- Effère. Le rayon vert. suppl. p. 199-200. (23 juin.)
- Nicolas, G., & Durand, J. F. Une pluie de soufre dans la région de Toulouse. p. 16. (7 juil.)
- Luirette, H. Le vol à voile par vent descendant. p. 76-79. (4 août.)
- Schereschewsky, Ph. Les prévisions du temps de la tour Eiffel. p. 65-70. (4 août.)
- Philosophical magazine. London. v. 46. July, 1923.*
- Jeffreys, Harold. The effect of a steady wind on the sea-level near a straight shore. p. 114-125.
- Vegard, L. The auroral spectrum and the upper strata of the atmosphere. p. 193-211. [Abstr. in this REVIEW, p. 359.]
- Popular science monthly. New York. v. 51. August, 1923.*
- Brown, Raymond J. Man steals Jove's thunder. Crackling of 2,000,000-volt lightning bolts in laboratory reveals new wonders of science. p. 21-22.
- Royal society of London. Proceedings. London. ser. A. v. 103. June, 1923.*
- Aston, F. W. Critical search for a heavier constituent of the atmosphere by means of the mass-spectrograph. p. 462-469.
- Science. New York. v. 58. July 27, 1923.*
- Bauer, Louis A. Note regarding the annual variation of atmospheric potential-gradient. p. 67-68.
- Science progress. London. v. 18. July, 1923.*
- Wiese, W. Die Einwirkung des Polareises im Grönlandischen Meere auf die Nordatlantische zyklonale Tätigkeit. p. 6-14. [Abstract in English.]
- Scientific monthly. New York. v. 17. August, 1923.*
- Morse, Withrow. An unrecognized factor in altitude effects. p. 108-113.
- Ward, Robert DeC. Hot waves, hot winds, and chinook winds in the United States. p. 146-167.
- U. S. Air Service. Washington. v. 8. July, 1923.*
- Meisinger, C. LeRoy. Free-air wind charts for aviators. p. 34-39.
- Wetter, Berlin. 40. Jahrg. April/Mai/Juni, 1923.*
- Baur, Franz. Reiz und Schonung als Ausgangspunkte der medizinischen Klimatologie. p. 57-60.
- Dorno, C. Die wissenschaftliche und praktische Bedeutung der Meteorologie. p. 49-56.

Wetter, Berlin, 40. Jahrg—Continued.

- König, W. Polarfronttheorie und fünfägige Barometerschwankung. p. 60–61.
 Myrbach, O. J. Bjerknes und H. Solberg: Die Lebensbahn der Zyklonen und die Polarfront-Theorie der atmosphärischen Zirkulation. p. 44–49.
 Ständer, F. Nachprüfung von altem meteorologischen Zahlenmaterial durch alte Urkunden. p. 61–62.
 Topolansky, Moriz. Die Erscheinungsformen des aus der Luft kondensierten Wasserdampfes. p. 41–44.
 Troeger, Heinz. Die Windrose am 21. Juni 1919 zu Kl. Wiersewitz bei Herrnstadt (an der Bartsch). p. 62–63.

SOLAR OBSERVATIONS.

SOLAR AND SKY RADIATION MEASUREMENTS DURING JULY, 1923.

By HERBERT H. KIMBALL, In Charge, Solar Radiation Investigations.

For a description of instruments and exposures, and an account of the method of obtaining and reducing the measurements, the reader is referred to the REVIEW for April, 1920, 48:225, and a note in the REVIEW for November, 1922, 50:595.

From table 1 it is seen that direct solar-radiation intensities averaged decidedly below the normal values for July at Washington, D. C., and close to normal at Madison, Wis., and Lincoln, Nebr.

Table 2 shows that about the average amount of solar and sky radiation for July was received on a horizontal surface at all three stations.

Skylight-polarization measurements, obtained at Washington on four days give a mean of 51 per cent, with a maximum of 59 per cent on the 23d. At Madison measurements obtained on four days give a mean of 59 per cent, with a maximum of 61 per cent on the 18th. These are slightly below average values for July at Madison, and close to July averages for Washington.

TABLE 1.—*Solar radiation intensities during July, 1923.*

[Gram-calories per minute per square centimeter of normal surface.]

Washington, D. C.

Date.	Sun's zenith distance.									
	8 a.m.	78.7°	75.7°	70.7°	60.0°	0.0°	60.0°	70.7°	75.7°	78.7°
	75th mer. time.	Air mass.								
e.	5.0	4.0	3.0	2.0	1.0	2.0	3.0	4.0	5.0	e.
July 3.....	mm.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	mm.
5.....	11.38	.....	.....	0.93	.....	.....	.....	.....	.....	13.13
17.....	16.79	.....	.....	0.85	1.06	.....	.....	.....	.....	14.60
18.....	14.60	.....	.....	0.81	0.97	.....	.....	.....	.....	10.97
19.....	13.13	.....	.....	0.59	.....	.....	.....	.....	.....	10.21
20.....	10.59	0.49	.....	1.11	.....	.....	.....	.....	.....	10.21
21.....	14.60	.....	0.44	0.66	1.05	.....	.....	.....	.....	13.61
22.....	12.68	.....	0.38	0.82	1.12	.....	.....	.....	.....	9.83
23.....	7.87	.....	.....	1.02	1.40	.....	.....	.....	.....	6.76
25.....	17.37	.....	.....	1.14	.....	.....	.....	.....	.....	12.68
26.....	10.59	.....	0.64	0.81	1.28	1.07	0.89	0.75	.....	9.14
Means.....	(0.49)	0.49	0.81	1.14	(1.07)	(0.89)	(0.75)	.....	.....	.....
Departures.....	-0.19	-0.36	-0.09	-0.05	+0.10	+0.12	+0.09	.....	.....	.....

¹ Extrapolated.

- Zeitschrift für angewandte Geophysik. Berlin. Bd. 1. H. 5. 1923.*
 Gutenberg, B. Über den Erdkern in 2900 km Tiefe und die an ihm stattfindenden Reflexionen und Brechungen von Erdbebenwellen. p. 105–115. (Mai.)
 Stumpff, K. Periodogramme und ihre Anwendung auf astronomische und geophysikalische Fragen. p. 129–143. (Juni.)

- Zeitschrift für Instrumentenkunde. Berlin. 43. Jahrgang. 1923.*
 Schoute, C. Ein Registrier-Theodolit für Pilotballone. p. 200–205. (Juni.) [Abstract.]
 Hofmann, Albert. Apparate zur Erforschung der Himmelpolarisation. p. 232–235. (Juli.)

TABLE 1.—*Solar radiation intensities during July, 1923—Continued.*

Madison, Wis.

Date.	Sun's zenith distance.										Local mean solar time.
	8 a.m.	78.7°	75.7°	70.7°	60.0°	0.0°	60.0°	70.0°	75.7°	78.7°	
	75th mer. time.	Air mass.									
e.	5.0	4.0	3.0	2.0	1.0	2.0	3.0	4.0	5.0	e.	
July 12.....	mm.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	mm.
17.....	11.31	0.76	0.85	1.07	1.32	.....	.....	.....	.....	.....	11.38
18.....	9.47	.....	.....	1.09	1.41	.....	.....	.....	.....	.....	8.81
24.....	10.59	.....	.....	1.05	1.35	.....	.....	.....	.....	.....	10.59
25.....	16.20	.....	.....	1.04	1.33	.....	.....	.....	.....	.....	14.10
Means.....	12.68	.....	0.92	1.05	1.36	.....	.....	.....	.....	.....	9.47
Departures.....	(0.76)	(0.88)	0.06	0.06	0.06	.....	.....	.....	.....	.....	.....
.....	± 0.00	± 0.01	+ 0.03	+ 0.03	+ 0.03	.....	.....	.....	.....	.....	.....

Lincoln, Nebr.

July 8.....	18.20	.....	.....	1.11	1.29	.....	.....	.....	.....	12.68
9.....	17.37	0.78	0.92	1.10	1.33	.....	.....	.....	.....	15.11
14.....	18.59	.....	0.71	0.93	1.17	.....	.....	.....	.....	16.20
28.....	6.83	.....	0.91	1.20	1.44	.....	.....	.....	.....	9.14
30.....	12.68	.....	1.13	1.39	1.66	.....	.....	.....	.....	14.60
31.....	14.60	0.70	0.83	1.01	1.28	1.46	1.62	1.80	1.98	12.68
Means.....	(0.74)	0.84	1.08	1.32	(1.14)	(0.93)	(0.88)	.....	.....	.....
Departures.....	-0.06	-0.06	± 0.00	-0.01	+ 0.07	+ 0.04	+ 0.05	.....	.....	.....

TABLE 2.—*Solar and sky radiation received on a horizontal surface.*

Week beginning.	Average daily radiation.			Average daily departure for the week.			Excess or deficiency since first of year.		
	Wash- ington.	Mad- ison.	Lin- coln.	Wash- ington.	Mad- ison.	Lin- coln.	Wash- ington.	Mad- ison.	Lin- coln.
	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.
July 2.....	526	476	631	+16	-62	+55	-1,989	+927	-68
9.....	458	515	514	-39	-16	-67	-2,263	+818	-534
16.....	521	598	604	+37	+85	+33	-2,003	+1,416	-308
23.....	467	419	490	-8	-72	-60	-2,044	+913	-721